

Exploring the Extreme			
2006 21st Century Mathematics			
Standards and Objectives			
West Virginia 21st Century Mathematics			
Grade 1			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	WV	MA.1.M.O.1.4.2	select appropriate units and tools to measure and compare two objects or events according to one or more of the following attributes: length, height, weight, temperature, volume. justify selection of units and tools used to measure the attributes and present results.
Finding the Center of Gravity Using Rulers	WV	MA.1.M.O.1.4.1	estimate, measure, compare and order using customary, metric, and nonstandard units to determine length to nearer whole unit.
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Grade 2			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	WV	MA.2.M.O.2.2.2	explain how one variable produces a change in another variable
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Grade 3			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Plumb Lines	WV	MA.3.M.O.3.4.2	estimate and find the perimeter and area of familiar geometric shapes, using manipulatives, grids, or appropriate measuring tools.
Changing the Center of Gravity Using Moment Arms	WV	MA.3.M.O.3.4.2	estimate and find the perimeter and area of familiar geometric shapes, using manipulatives, grids, or appropriate measuring tools.
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Grade 4			
Activity/Lesson	State	Standards	

Finding the Center of Gravity Using Rulers	WV	MA.4.M.O.4.4.1	select appropriate measuring tools, apply and convert standard units within a system to estimate, measure, compare and order real-world measurements including: lengths using customary (to the nearest one-fourth inch) and metric units, weight, capacity, temperature, and justify and present results.
Finding the Center of Gravity Using Rulers	WV	MA.4.M.O.4.5.2	pose a grade-appropriate question that can be addressed with data, collect, organize, display, and analyze data in order to answer the question.
Finding the Center of Gravity Using Plumb Lines	WV	MA.4.M.O.4.4.1	select appropriate measuring tools, apply and convert standard units within a system to estimate, measure, compare and order real-world measurements including: lengths using customary (to the nearest one-fourth inch) and metric units, weight, capacity, temperature, and justify and present results.
Changing the Center of Gravity Using Moment Arms	WV	MA.4.M.O.4.4.1	select appropriate measuring tools, apply and convert standard units within a system to estimate, measure, compare and order real-world measurements including: lengths using customary (to the nearest one-fourth inch) and metric units, weight, capacity, temperature, and justify and present results.
Changing the Center of Gravity Using Moment Arms	WV	MA.4.M.O.4.5.2	pose a grade-appropriate question that can be addressed with data, collect, organize, display, and analyze data in order to answer the question.
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Grade 5			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	WV	MA.5.M.O.5.1.3	estimate solutions to problems involving whole numbers, decimals, fractions, and percents to determine reasonableness using benchmarks.
Center of Gravity, Pitch, Yaw	WV	MA.5.M.O.5.1.6	model and write equivalencies of fractions, decimals, percents, and ratios.
Center of Gravity, Pitch, Yaw	WV	MA.5.M.O.5.4.6	estimate and/or measure the weight/mass of real objects in ounces, pounds, grams, and kilograms.
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Grade 6			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	WV	MA.6.M.O.6.1. 7	compute the percent of a number to solve application problems and justify the reasonableness by estimation.
Center of Gravity, Pitch, Yaw	WV	MA.6.M.O.6.2. 6	write and solve one-step equations using number sense, properties of operations and the idea of maintaining equality to represent and solve real-world problems.
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Grade 7			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	WV	MA.7.M.O.7.1. 5	analyze and solve grade-appropriate real-world problems with whole numbers, integers, decimals, fractions and percents including problems involving discounts, interest, taxes, tips, percent increase or decrease, and justify solutions including using estimation and reasonableness.
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Grade 8			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	WV	MA.8.M.O.8.1. 3	analyze and solve grade-appropriate real-world problems with whole numbers, decimals, fractions, percents, percent increase and decrease, integers, and including, but not limited to, rates, tips, discounts, sales tax and interest and verify solutions using estimation techniques.
Fuel Efficiency	WV	MA.8.M.O.8.4. 2	solve problems involving missing measurements in plane and solid geometric figures using formulas and drawings including irregular figures, models or definitions.